PACKAGE VI

RANGE 24A, FOG OIL DRUM STORAGE, PARCEL 88(7)
RANGE 24A, MULTI-PURPOSE RANGE, PARCEL 108(7)/82Q-X
FORMER SMOKE AREA BVZ, PARCEL 124(7)
FORMER SMOKE AREA S, PARCEL 106(7)
FORMER SMOKE AREA R, PARCEL 105(7)
STUMP DUMP, PARCEL 82(7)
OLD INCINERATOR BUILDING 5710, PARCEL 125(7)
FORMER CHOCCOLOCCO CORRIDOR SMOKE AREA, PARCEL 107(7)
FORMER SMOKE AREA, SOUTH SLOPE OF MORGAN MOUNTAIN, PARCEL 159(7)
RESPONSE TO COMMENTS
BY U.S ENVIRONMENTAL PROTECTION AGENCY

Reference: *Comments by Bart Reedy, EPA, August 19, 1998*

Overall Technical Comments

General Comments

Comment 1: **The descriptions of methods to be used rely significantly on the descriptions in the Installation-Wide Sampling and Analysis Plan (IWSAP) and Quality Assurance Project Plan (QAPP). During review of the IWSAP and QAPP, several possible methods were frequently proposed, to be further defined in the SFSPs. These SFSPs should specify exactly which methods will be used.**

Response: The final IWSAP dated August 1998 has currently been completed and will be submitted to the EPA in early September 1998. The final IWSAP will include more specific information than the draft IWSAP. The installation wide SAP was written to present methods that will be used at multiple sites and therefore eliminate repetitive text in SFSPs. However the SFSPs will include site-specific methods unique to the site, but will refer to the SAP for installation-wide detailed procedures.

Comment 2: **At Range 24A, Multi-Purpose Range, unexploded ordnance (UXO) may remain. Both a surface inspection and a geophysical investigation will be conducted to determine the presence of possible UXO. Additionally, this SFSP should include a map showing the area to be covered by visual and geophysical investigations.**

Response: Agree. A figure will be included to show the approximate areas that a surface inspection and a geophysical investigation will be conducted to reach sampling locations, only, at Range 24A. The areas will be approximate because sampling location may be altered based on actual field observations by the site geologist.

Comment 3: **Several of these sites are former smoke generation areas. The text states that these operations involved the release and disposal of petroleum hydrocarbons. The terms "release and disposal" should be explained further. Sites requiring information include the Former Smoke Area BVZ, Former Smoke Area S, Former Smoke Area R, Former Chocolocco Corridor Smoke Area, and the Former Smoke Area South Slope of Morgan Mountain. Since the petroleum hydrocarbons which were used were probably liquids and would have rapidly percolated to the groundwater there is a good chance that shallow groundwater became contaminated. If any of the available information on these sites provides any indication of the volumes of petroleum hydrocarbons which might have been released or disposed of, this information should be discussed.**

Response: Agree. However, there was not any available documentation identified during preparation of theses SFSPs that described the amount of petroleum hydrocarbon materials that were released or disposed of other than what has been presented in these SFSPs.

Comment 4: **These SFSPs should provide all available information on former and current activities occurring in the site vicinities. This information is useful when determining the origin of any contamination that is detected.**

Response: Agree. It is recognized that parcels with the potential to be the source of additional contamination in the vicinity of other parcels will have any additional analytical parameters added to the suite of analyses, if originally included. However, in most cases site investigations are being performed or will be performed on most adjacent parcels that could potentially be a source for detected contamination not site specific. These additional sources of PSSC, once detected, will be considered when evaluating the sample data from a site when it does not appear the detected PSSC do not originate at that particular site. This information will be included in determining follow up sampling and analysis, if warranted.

Comment 5: **These SFSPs do not specify materials of construction for temporary wells and screens, the methods or materials for probehole abandonment, well development methods, or how groundwater will be collected. Although the text refers to the IWSAP for these details, the IWSAP listed various materials and methods for each and stated that these items would be specified in the SFSPs. Specify these items.**

Response: The Final IWSAP dated August 1998 has been revised and is being submitted to the EPA. The final IWSAP includes more specific information on temporary wells and screens. Temporary well installation procedures and sampling is discussed in Section 4.7.1.1. Borehole abandonment procedures are discussed in section 4.7.2 and methods for collecting groundwater samples from monitoring wells are discussed in section 4.9.1.4 of the final IWSAP. Well development methods are discussed in Appendix C, section C.6.1, C.6.2, and C.6.3 of the final IWSAP. However, it should be noted well development will not be performed for temporary monitoring wells installed using direct-push technology.

Comment 6: **Figures provided with these SFSPs do not show all significant features, such as streams, and appear to show only current structures (buildings, pads, etc.). Past structures and site configurations may be determined from aerial photographs. The historical site layout will help clarify whether or not the proposed sampling locations are sited at the correct locations. Also, aerial photographs will show structures associated with USTs, such as refueling points. Structures that have been demolished or are not longer present should be shown, either in existing figures or in additional figures. Aerial photographs can also be used to approximate the dates of construction and demolition of buildings, which can be used to approximate the possible dates of operation.**

Response: Similar figures will be prepared for the Habitat-Specific Ecological Assessment Work Plan currently in preparation. The figures prepared for this document will focus on pertinent ecological features associated with each site or parcel as relevant to on-site contamination, potential contaminant migration, and potential exposure of ecological receptors to contaminants. Relevant ecological features to be included in the figures will include creeks and streams, vegetation, wetlands, forest, etc.

Agree. The figures in these SFSPs will be revised to significant features, such as streams, past structures and site configurations as may be determined from aerial photographs. Additional figures will be added as needed to clarify site structures that have been demolished or are not longer present. Aerial photographs will be used to approximate the dates of construction and demolition of buildings, which can be used to approximate the possible dates of operation.

Comment 7: **Groundwater samples will be collected from direct-push borings which will be temporary wells with little or no well development. Since the purpose of sampling is to confirm the presence or absence of site contamination and to support feasibility studies or risk assessments, the described methods may be adequate to confirm**

whether or not contamination is present. However, this data should be used only with caution for risk assessments or feasibility studies, since the results may not be representative of true site conditions. If site contamination is found, then more permanent wells should be installed to better determine groundwater conditions.

Response: Agree.

Specific Comments

Range 24A, Fog Oil Drum Storage

Comment 1: **Page 1-1, Lines 28 and 29. Text states that a large volume of fog oil has been released over the years at training and storage areas within Range 24Aand that an oil sheen has been noted "just north of the road." If known, the text, by referencing appropriate figures, should clarify exactly where the releases have occurred and when they occurred. In addition, if these releases are not to be investigated and addressed as part of the Fog Oil Drum Storage investigation, the text should state when these areas will be investigated. The text should also list the components present in fog oil.**

Response: The location of the oil sheen was not identified by ESE in the EBS. Also, the oil sheen was not observed during IT's site visit in April 1998.

Comment 2: **Figure 1-2. The text on Page 1-1 states that the drum storage facility consists of a bermed concrete pad that slopes to a floor drain connected to an oil/water separator (OWS) and underground storage tank (UST). This system was used to collect spilled oil and precipitation. This figure shows three sumps with grading covers but not any floor drains. The text and the figure should agree. Also, the text should state how oil and oily water from this OWS and UST were disposed of or discharged.**

Response: The floor drains that were reported in the EBS is the grading covers and sumps shown in Figure 1-2. The grading covers were placed in the concrete pad to allow spilled oil and precipitation to flow through the gradings into the sumps. The text will be revised to be clearer about floor drains.

Comment 3: **Table 3-1. This table summarizes data quality objectives. Only one sample each of surface water and sediment is proposed. At least one additional sample of each should be collected so that both upgradient and downgradient for this site are characterized.**

Response: Additional surface water/sediment samples will be collected and analyzed, and the resulting data used in the assessment for this site. Upgradient and downgradient locations will be selected and sampled. However, these additional samples are not directly associated with this specific site. Rather, they will be described in the Habitat-Specific Ecological Assessment Work Plan and/or in the Watershed Assessment Work Plan for Fort McClellan, both currently in preparation.

The surface water/sediment sample locations identified in association with this specific site were selected based on potential surface runoff from most of the site area, and downstream of potential point-discharge points (e.g., sewer outfall).

Comment 4: **Page 3-2, Lines 21 and 22. The text notes that oily stains were noted on soil outside the drum storage area. Locations of the oil stained areas should be shown on Figures 1-2 and 4-1.**

Response: The Weston 1990 report did not provide a figure that identified the locations of the reported oil stained areas; only a photograph that shows a oil stain somewhere along the outside of the drum storage area. The oil stain was not observed during IT's site visit in April 1998.

Comment 5: **Figure 4-1. This figure, which shows proposed soil sampling locations, should show the outfall from the OWS. The depositional sample DP01 does not appear to be in the surface water runoff pathway from this site. Section 4.3.6.1 states that this depositional soil sample will be collected southeast of this site, although this figure shows this sample northeast of the site. The location of this depositional sample should be justified and the text should agree with figures and tables.**

Response: The figure will be revised to show the OWS outfall. The location of a depositional soil sample does not necessarily need to be within a surface water runoff pathway. Depositional soil samples are designed to address potential migration of contaminants from the source location to off-site locations through terrestrial pathways. Depositional soil samples are collected from locations where surface topography has created low-lying areas or level elevation. These locations are associated with the potential for surface runoff to collect and pool, and either evaporate or deposit suspended particles, thereby depositing dissolved or associated contaminants at the depositional area. It is very similar to a surface soil sample with the exception that the surface soil sample addresses source areas and/or on-site or near-site migration. The selected location is correct. The text will be revised to state that this depositional soil sample will be collected northeast of this site.

Comment 6: **Page 4-3, Lines 23 to 26. The text of Section 4.3.3.2 states that, "Direct push temporary wells will be advanced ..." and then in the next sentence, states that "The temporary well will be installed in the soil boring ..." The text should specify either a direct push or soil borings for well installation.**

Response: The text will be revised as follows: Groundwater samples will be collected in accordance with the procedures and methods specified in Section 4.7.1.1 of the SAP (IT, 1998a). Direct-push temporary wells will be advanced into the water table (to a depth where sufficient water is encountered) to collect a groundwater sample. The direct-push temporary well will be installed in the soil boring to collect a water sample from the water table surface.

Range 24A, Multi-Purpose Range

Comment 7: **Page 1-2. The text in the first full paragraph discusses the smoke-generator training and maintenance line. The purpose of using and method of operation of smoke generators should be described.**

Response: Agree.

Comment 8: **Page 1-3 and Figure 1-2. The text mentions at least two machine gun ranges (Parcels 112Q and 213Q), although the figure does not show these ranges. The figure should show the locations of these two ranges.**

Response: Agree. The figures will be revised to show these parcels (112Q and 213Q).

Comment 9: **Page 2-2, Line 12. The text states that a complete set of analytical results is provided in Appendix A of this SFSP. However, Appendix A is not included in this SFSP. This appendix should be included.**

Response: Appendix A was inadvertently left out of the draft SFSP. It will be included in the final SPSP.

Comment 10: **Table 3-1. This table, under the "Conceptual Site Model" column, states that contaminants of potential concern (COPCs) include chemical agents. However, the analyses listed in the "Data Types" column do not include analyses for chemical agents. Also, UXO is possibly present at this site (field activities in Section 4 state that a UXO investigation will be conducted prior to other activities). All media sampled should also be analyzed for ordnance-related compounds (SW 846 Method 8330).**

Also, more surface water/sediment sample locations should be selected. For each potential source area, a sampling location should be sited to represent conditions upgradient and one sampling location should be sited at the point of surface water runoff entry into the creek. An upgradient sample location should be collected from the southernmost point of the creek that intersects the site. No known contaminant sources appear to be located upstream of this point. This creek appears to emerge from the ground within Range 24(A).

Response:

(1) Chemical agent breakdown product analyses is listed only for samples from the existing monitoring wells that surrounds the Former Chemical Munitions Disposal Area, Parcel 187(7) with in Range 24A. However, the SI for Parcel 187(7) will be addressed under a separate work authorization and a separate SFSP. Also, based on the previous studies listed in Section 2.0 of this SFSP, there have not been any previous detections of chemical agents or breakdown products at the site. The analysis of breakdown products in the samples in the existing monitoring well samples is just precautionary.

(2) Agree. Analyses for Method 8330 will be added to all sample media at the site

(3) Additional surface water/sediment samples will be collected and analyzed, and the resulting data used in the assessment for this site. Upgradient and downgradient locations will be selected and sampled. However, these additional samples are not directly associated with this specific site. Rather, they will be described in the Habitat-Specific Ecological Assessment Work Plan and/or in the Watershed Assessment Work Plan for Fort McClellan, both currently in preparation.

The surface water/sediment sample locations identified in association with this specific site were selected based on potential surface runoff from most of the site area, and downstream of potential point-discharge points (e.g., sewer outfall).

(4) The Creek will be better defined on the figures.

Comment 11: **Page 3-2, line 3-2. The text mentions institutional controls. Other than the described fence around Parcel 187(7), no other institutional controls have been described. If any other institutional controls are in place or planned, they should be described in the text.**

Response: This is a general statement that ranges are not open for public use and that access to this site would be restricted by whatever FTMC controls that

prevents access to any active range by a youthful visitor. Access by a youthful visitor to active ranges with out FTMC approval would be assumed to be a trespass offense. FTMC could be contacted to determine how a youthful visitor would be limited in his/her access to ranges at FTMC.

Comment 12: **Table 4-1 and Figure 4-1. This table describes the sample locations and rationales while the figure shows the sample locations. For this entire site of approximately 48 acres, only a single depositional soil sampling location is proposed. Several widely scattered source areas are contained within Range 24A. The single depositional soil sample planned (FTA-108-DP01) is not clearly downgradient from any of these sources. At least one depositional soil sample should be collected downgradient from each of these source areas (the concrete smoke generator line, Parcel 187(7), the machine gun range, and the rifle range).**

To support the location of the depositional soil sample locations, Figure 4-1 should show the surface water runoff pathway from each source to the creek. This will also justify the location of additional surface water/sediment samples, as proposed earlier.

Also, no groundwater sampling locations are proposed for the area east of the surface water drainage. In addition, since the depth and construction methods of permanent wells T24A-G01, -G02, -G03 are not described, it is not possible to determine if these wells are appropriately sited for monitoring light, floating organic phases potentially present at this site. At least one groundwater sample should be collected from a location downgradient of Parcel 187(7) and east of the surface drainage/creek.

Response: Depositional soil samples are designed to address potential migration of contaminants from the source location to off-site locations through terrestrial pathways. Depositional soil samples are collected from locations where surface topography has created low-lying areas or level elevation. These locations are associated with the potential for surface runoff to collect and pool, and either evaporate or deposit suspended particles, thereby depositing dissolved or associated contaminants at the depositional area.

A depositional soil sample is very similar to a surface soil sample with the exception that the surface soil sample addresses source areas and/or on-site or near-site migration. In this context, however, the depositional soil samples address an investigative goal not necessarily addressed adequately by the surface soil samples associated with this site.

For this particular site, two additional depositional soil sample locations will be identified, one to the north and immediately downgradient of Parcel 88(6), and one to the west and immediately downgradient from Parcel 113Q-X and Parcel 187(7). The previously identified depositional soil to the north just off-site of Parcel 108(7)/82Q-X will be retained.

Sample locations FTA-108-GP07 through GP10 are east of the surface water drainage of the site and these locations include collecting groundwater samples for analyses. Bedrock groundwater flow is to the northwest (to be revised in text) and therefore, existing wells T24A-G01 and T24A-G02 are downgradient of Parcel 187(7) and east of the surface drainage/creek. Because this is a site investigation to only determine the presence or absence of PSSC, additional sample locations may be proposed after review of any detected analytical results.

Comment 13: **Page 4-3, Lines 28 to 32. The text states that, "Direct push temporary wells will be advanced ..." and then in the next sentence, states that, "The temporary well will be installed in the soil boring ..." The text should specify either a direct push or soil borings for well installation.**

Response: The text will be revised as follows: Groundwater samples will be collected in accordance with the procedures and methods specified in Section 4.7.1.1 of the SAP (IT, 1998a). Direct-push temporary wells will be advanced into the water table (to a depth where sufficient water is encountered) to collect a groundwater sample. The direct-push temporary well will be installed in the soil boring to collect a water sample from the water table surface.

Comment 14: **Section 4.5. As stated Specific Comment Number 8, ordnance-related compounds should be added to the list of analyses for all matrices.**

Response: Agree. See response to Specific Comment 8.

Former Smoke Area BVZ

Comment 15: **Page 1.2. Section 1.2 should describe the structures shown in Figure 1-2 and the figure should indicate the flow direction of the stream that runs west of this site.**

Response: Agree. This section will be revised.

Comment 16: **Table 4-1 and Figure 4-1. Table 4-1 shows the site sampling rationale. The rationale for both the sediment/surface water sampling locations is exactly the same ("represents the most hydrologically downgradient position in the vicinity."). This cannot be true for two separate**

sampling locations. One or both of these rationales should be modified.

Also, as stated in the text, these samples are stated to be collected from a tributary of Ingram Creek. Figure 4-1 shows that this creek is the South Branch of Cane Creek. This is inconsistent and either the table or the figure should be corrected.
Finally, the drainage path from this site is unclear and, as a result, it is not possible to determine if the surface water/sediment sampling locations are sited to indicate any impacts by the site. The drainage pathway should be shown. The proposed surface water/sediment sampling locations should be re-sited so that one sample is clearly upgradient of this site and the other sample is at the point where runoff from the site enters the creek. If there is more than one point where runoff enters the creek, then additional surface water/sediment samples should be collected at these points.

Response: Agree. These rationale will be changed to state "represents a hydrologically downgradient location". The text will be revised to state the samples will be collected from the South Branch of Cane Creek. The drainage pathways will be observed in the field during the sampling event by the ecological field sampling team. Additional surface water and sediment samples are being collected upgradient of the site as part of the Habitat Specific Ecological Risk Assessment . These locations will be provided in the work plan for the Habitat Specific Ecological Risk Assessment Work Plan.

Former Smoke Area S

Comment 17: **Figure 4-1. This figure shows the proposed sample locations for this site. Only two soil sample locations are proposed. Given the size of this site (slightly more than one acre, or approximately 80 feet wide by 700 feet long), more sampling locations may be required. The EPA Region IV EISOPQAM provides guidance regarding the number of samples that should be collected. Either more sampling locations are needed or the collection of only two samples should be more strongly justified.**

Response: As indicated on Figure 4-1 and the tables, two soil samples, four surface water samples, four sediment samples, and four depositional soil samples will be collected at the site.

Former Smoke Area R

Comment 18: **Pages 1-1 to 1-2. The text states that there is no evidence of surface water "within the vicinity of the site." Figure 1-2 shows a feature**

approximately 500 feet north of this site, which appears to be a drainage pathway, possibly in another drainage basin. The text should specify the distance and direction to the nearest surface water and clarify identify whether feature is in different drainage basin.

Response: The text will be revised to state the distance and direction of the nearest surface water.

Comment 19: **Figure 1-2. This figures shows the site location. A line with the label Range 25 bisects this figure from north to south. It is not clear from the figure, nor described in the text, whether this site is part of Range 25. This should be clearly stated in the text.**

Also, this figure, as well as Figure 4-1, shows another site which according to the scale provided, is approximately 50 feet by 100. However, the text in Section 1.2 states that the site is approximately 150 feet by 275 feet. Either the figures or the text should be corrected.

Response: No. This is not part of Range 25.

The site is actually 50 feet by 100 feet.

Comment 20: **Table 4-1 and Figure 4-1. The table shows the site sampling rationale and the figure shows the proposed sampling location. Only a single soil sample location is with surface and subsurface samples to be collected.. The rationale given is that this sampling location "represents a possible contaminant source point." A stronger rationale is needed for collecting only a single sample. The rationale should state why this single location is believed to represent the most contaminated soil in this entire area. Otherwise, more samples should be collected per EPA Region IV EISOPQAM guidance.**

Response: One additional sample will be added to this scope of work.

Stump Dump

Comment 21: **Pages 1-1 and 1-2 and Figure 1-2. Section 1.2, which describes the Stump Dump site, states that there are no streams or ponds on or near the site, although several borrow pits and leachate/drainage control ponds exist on or around the site. Figure 1-2 shows five such ponds either fully or partially within the parcel boundaries. A manmade surface drainage feature is also shown. If known, the text should state whether the leachate/drainage flows from the pits to some other surface water or whether it infiltrates through the soil and into the groundwater.**

The text does state that the Stump Dump is an open area covered with soil and low vegetation. The text should clarify the depth, if known, and general condition of the dirt cover. Although the figure shows the topography of the site; the text should clarify whether this is the original topography or the topography after the dirt cover was applied. For example, if the depression shown in Figure 1-2 was filled in when the dirt cover was applied, then this should be stated.

Response: To our knowledge the water does not discharge to any other surface water body. Therefore, it must infiltrate to groundwater.

The additional information requested with the comment is not available. On our next visit to FTMC we will check for as-built drawings related to the cover. If the information is available, we will insert it into the text.

Comment 22: **Figure 4-1. No soil sampling locations are proposed within the boundaries of this parcel. Although the materials in the Stump Dump have been covered with soil, attempts should be made to site some subsurface soil sampling locations where buried materials are known or suspected to remain.**

Although eight groundwater sampling locations are shown, the legend should add that surface and subsurface soils samples will also be collected in these locations.

This figure shows proposed sampling locations. Surface water/ sediment sampling location FTA-82-SW/SD05 is located in an area labeled "Depression" although there is no indication either on this map or in Figure 1-2 that this depression contains water. If this depression is a pond, it should be designated as such in both figures.

Eight proposed residuum monitoring wells are shown in this figure. Well location modifications are suggested, as follows. Well FTA-82-MW07 should be moved to a location between well FTA-82-MW08 and -MW01. This configuration will provide better downgradient monitoring well coverage, while still providing two upgradient/ background monitoring wells. Also, FTA-82-MW04 should be moved to the area between and just east of the two ponds at the toe of the landfill, so that groundwater, which may be impacted by these ponds, can be monitored.

Response: Subsurface soil samples are not proposed because we do not want to compromise the integrity of the cap.

Agree.

Agree.

One of the primary concerns of a fill area is the potential for mounding and subseqeunt radial flow. These wells, MW07 and MW08 were addressing this issue. Additional wells downgradient of the ponds can be installed at a later date if the surface water samples from the ponds indicate the presence of contaminants.

Comment 23: **Section 4.2.3. This section, which discusses monitoring wells, should provide the proposed drilling depths, screen lengths, and whether the wells will be constructed near the top of the water table or near the bedrock interface.**

Response: It is anticipated that each of these well screens will be installed at the water table of the residuum. It is unknown at this time how deep each well will be installed. Obviously, the wells at the higher elevations will be deeper than the wells at the lower elevations.

Comment 24: **Table 4-5. This table should show the total organic carbon and grain size analyses for sediments. Dioxin analysis is not shown in this table, although it is listed in Section 4.5; the table and the text should agree.**

Response: Agree. Dioxin is not part of the analytical suite for this site. Section 4.5 will be revised to reflect the change.

Old Incinerator Building 5710

Comment 25: **Pages 1-1 and 1-2. This text should discuss what materials were burned in this incinerator and state how the incinerator was operated. Also, since Figure 1-2, which shows the "Outline of Foundation" for two structures; the text in Section 1.2 should describe these outlines and whether it is covered with dirt or other material.. For example, if all that remains are concrete pads, then the text should clearly state this.**

Response: Agree. However, nobody knows what material was burned or how it operated. The information requested would be based on assumptions. Our assumption is that solid waste was incinerated here.

Comment 26: **Page 2-1. Section 2.0 describes previous environmental studies. According to the text, historical aerial photographs have been examined. Such photographs can be used to estimate the approximate time when buildings were in place, approximately when they were removed, and whether any materials, such as drums, were located in the vicinity of this incinerator.**

Response: The information requested in this comment cannot be ascertained through the use of the aerial photographs.

Comment 27: **Table 3-1. This table lists data quality objectives for this site. If waste oils were incinerated here, then the analyte lists for all media should include PCBs.**

Response: There is not any evidence to suggest that the waste oils were incinerated here. Therefore PCBs will not be added to the analytical suite.

Comment 28: **Table 4-1 and Figure 4-1. The table shows the sampling rationale and the figure shows the proposed sample locations. The following changes and modifications are suggested.**

- **Two soil sampling locations are proposed within the remains of a concrete structure. The text should clarify whether the concrete will have to be cored to access soils. Also, more soil samples should be collected from around these structures. If the proposed soil sampling locations are covered with concrete, it is possible that no contaminants are present in the locations shown. The text should address this possibility.**

- **Two surface water/sediment sampling locations are proposed. The text in Section 1.2 states that this site is on a floodplain. Frequent flooding may have resulted in contaminant movement upstream and downstream from this site. Therefore, the proposed sampling location may not be ideally sited to define upgradient conditions or downgradient conditions. At least two more sampling location should be proposed for the collection of surface water/sediment samples; one further upgradient and one further downgradient. The exact siting of these additional sampling locations will depend on the topography surrounding this site. The topography should be shown on the figure and the text should discuss the rationale for selecting the sampling locations.**

Response:

- The text will clarify whether the concrete will have to be cored. The site is extremely small. The purpose of the site investigation is to determine the presence or absence of contamination at the site. Two samples should be sufficient at this site.

- Additional surface water/sediment samples will be collected and analyzed, and the resulting data used in the assessment for this site. Upgradient and downgradient locations will be selected and sampled. However, these additional samples are not directly associated with this specific site. Rather, they will be described in the Habitat-Specific

Ecological Assessment Work Plan and/or in the Watershed Assessment Work Plan for Fort McClellan, both currently in preparation.

The surface water/sediment sample locations identified in association with this specific site were selected based on potential surface runoff from most of the site area, and downstream of potential point-discharge points (e.g., sewer outfall).

Comment 29: **Tables 4-2 and 4-3. Table 4-2 lists soil samples and corresponding QA/QC samples and Table 4-3 lists surface water and sediment samples and corresponding QA/QC samples. The analytical suites shown do not include pesticides, PCBs, or herbicides, as listed in Section 4.5 and as shown in Table 4-4. All tables and Section 4.5 should agree and show the correct analytical suite.**

Response: The tables and Section 4.5 will be revised to be consistent. The analytical suite that will be provided in Section 4.5 and the tables will include pesticides, herbicides, dioxin, TAL metals, TCL VOCs, and TCL SVOCs.

Comment 30: **Table 4-4. This table lists all analytical samples and QA/QC samples. Not all of the QA/QC samples listed in Tables 4-2 and 4-3 are listed on Table 4-4. This inconsistence should be resolved.**

Response: The tables will be revised to be consistent.

Former Choccoloccoo Corridor Smoke Area

Comment 31: **Table 4-1 and Figure 4-1. The table lists the sampling rationale and the figure shows the proposed sampling locations. Additional surface water/sediment sample locations, which are clearly upgradient and downgradient of the site, are needed. The surface water runoff pathways should be shown in Figure 4-1 to justify the locations of the surface water/sediment samples and the depositional samples. The text in Table 4-1 states that depositional soil sample FTA-107-DP01 is at a likely point of collection for depositional soils sloughing off the study parcel toward the tributary of Chocolocco Creek. However, this sampling location is shown in Figure 4-1 as being located on the opposite side of this tributary. This inconsistence should be resolved.**

Response: Additional surface water and sediment samples are proposed to be collected as part of the habitat-specific ecological risk assessment. The locations will be provided in the habitat-specific ecological risk assessment work plan.

Location of FTA-107-DP01 will be moved to the opposite side of the

tributary.
The location of a depositional soil sample does not necessarily need to be within a surface water runoff pathway. Depositional soil samples are designed to address potential migration of contaminants from the source location to off-site locations through terrestrial pathways. Depositional soil samples are collected from locations where surface topography has created low-lying areas or level elevation. These locations are associated with the potential for surface runoff to collect and pool, and either evaporate or deposit suspended particles, thereby depositing dissolved or associated contaminants at the depositional area. It is very similar to a surface soil sample with the exception that the surface soil sample addresses source areas and/or on-site or near-site migration. The selected location is correct.

Former Smoke Area South Slope of Morgan Mountain

Comment 32: **Table 3-1. This table proposes the collection of only surface and subsurface soil samples. No surface water, sediment, groundwater, or depositional soil samples are proposed. At a minimum, groundwater samples should be proposed in this SFSP. If the surface water runoff pathway shows a connection to the Willis Branch, then surface water and sediment sampling locations also be proposed. Depositional soil samples should be collected along the runoff pathway to demonstrate whether contamination migration has occurred.**

Response: Additional surface water/sediment samples will be collected and analyzed, and the resulting data used in the assessment for this site. Upgradient and downgradient locations will be selected and sampled. However, these additional samples are not directly associated with this specific site. Rather, they will be described in the Habitat-Specific Ecological Assessment Work Plan and/or in the Watershed Assessment Work Plan for Fort McClellan, both currently in preparation.

One depositional soil sample location will be added to the south of Parcel 159(7). However, the location of a depositional soil sample does not necessarily need to be within a surface water runoff pathway. Depositional soil samples are designed to address potential migration of contaminants from the source location to off-site locations through terrestrial pathways. Depositional soil samples are collected from locations where surface topography has created low-lying areas or level elevation. These locations are associated with the potential for surface runoff to collect and pool, and either evaporate or deposit suspended particles, thereby depositing dissolved or associated contaminants at the depositional area. It is very similar to a surface soil sample with the exception that the surface soil sample addresses source areas and/or on-site or near-site migration. The selected location is correct.

Comment 33: **Page 3-2. The text states that it is unlikely that the small amounts of fog oil released would have leached to groundwater. The text should state how much fog oil was released. Even a small amount of fog oil, if released in a small area, may have infiltrated the soil and reached groundwater. According to the text in Section 1.2, the depth to groundwater is variable and the soils are moderately permeable.**

Groundwater sampling locations should be proposed or a good rationale for not doing so should be provided.

Response: If the soil samples indicate the presence of contamination, the data will be reviewed and a decision will be made to either collect additional samples (including groundwater) or not collect additional samples. The purpose of this SI is to determine either the absence or presence of contaminants on-site.

Comment 34: **Table 4-1 and Figure 4-1. The table describes the sampling rationale and the figure shows the sampling locations. Only four soil sampling locations are proposed with surface and subsurface soil samples to be collected at each of these locations. The minimal number and type of samples proposed should be better justified. As discussed for the other smoke areas, groundwater and depositional soil samples should also be collected and, depending on the surface water runoff pathway, surface water/sediment samples should also be collected.**

Response: Additional surface water/sediment samples will be collected and analyzed, and the resulting data used in the assessment for this site. Upgradient and downgradient locations will be selected and sampled. However, these additional samples are not directly associated with this specific site. Rather, they will be described in the Habitat-Specific Ecological Assessment Work Plan and/or in the Watershed Assessment Work Plan for Fort McClellan, both currently in preparation.

One depositional soil sample location will be added to the south of Parcel 159(7). However, the location of a depositional soil sample does not necessarily need to be within a surface water runoff pathway. Depositional soil samples are designed to address potential migration of contaminants from the source location to off-site locations through terrestrial pathways. Depositional soil samples are collected from locations where surface topography has created low-lying areas or level elevation. These locations are associated with the potential for surface runoff to collect and pool, and either evaporate or deposit suspended particles, thereby depositing dissolved or associated contaminants at the depositional area. It is very similar to a surface soil sample with the

exception that the surface soil sample addresses source areas and/or on-site or near-site migration. The selected location is correct.

Risk Assessment Comments

Specific Comments

Range 24A, Fog Oil Drum Storage (Parcel 88)

Comment 1: **Two additional surface water and sediment or depositional soil samples should be collected. One should be within the channel at the western boundary of Parcel 88 and the other collected within or near the channel southeast of Parcel 88. These additional samples are needed since the parcel history indicates the storage of a large quantity of fog oil drums and indicates previous release of material. The EBS indicated that "large amounts of fog oil have been released over the years."**

Response: One depositional soil sample and two surface water/sediment sample locations will be selected.

Range 24A Multi-Purpose Range (Parcel 108)

Comment 1: **The proposed surface water and sediment sample location is close to the locations of previous sampling. To maximize the spatial coverage of data, the collection of a sample south of the proposed surface water and sediment sample location should be considered. The presence of migration pathways into the stream south of the proposed location should be evaluated.**

Response: One additional surface water/sediment sample location will be selected in the creek west of Parcel 108.

Comment 2: **Section 1.2, Page 1-2. The text states that training activities conducted at the site reportedly included disposal of chemical warfare munitions filled with phosgene, "BZ???", sarin, and distilled mustard. However, there is no information provided on the substance referred to as "BZ???". Information on this substance should be included in the text, if available.**

Response: Agent BZ is an incapacitating agent and the chemical name is 3-quinuclidinol. This information will be included in the revised text.

Comment 3: **Section 2.0, Page 2-2 and 2-3. The text refers to Appendix A for a complete list of analytical results for surface water and sediment sampling at the site. However, this appendix is not provided in the**

document. Appendix A should be included in the document or the text should be corrected accordingly.

Response: Data for Appendix A will be included.

Comment 4: **Table 3-1. The table presents a summary of the data quality objectives for the site. The column entitled "Conceptual Site Model" contains a list of the potential receptors. However, the table fails to include current and future off-site residents that have been identified in the text as receptors at the site. The table should be amended to include these receptors.**

Response: Agree. The discrepancy between the table and text will be resolved.

Comment 5: **Section 3.3, Page 3-2. The text states that under current land use, the sportsman is assumed to be exposed only to potentially contaminated surface water that migrates off-site. According to the Conceptual Site Model presented in Figure 3-1, additional pathways associated with this receptor included dermal contact and ingestion of sediment, and fish ingestion. The text should be clarified to present accurate information on the potential exposure of the sportsman.**

Response: Text will be revised to clarify the pertinent information on the potential exposure of the sportsman.

Former Smoke Area BVZ (Parcel 124)

No comments were generated during the review of this attachment.

Former Smoke Area S (Parcel 106)

No comments were generated during the review of this attachment.

Former Smoke Area R (Parcel 105)

Comment 1: **Table 3-1. The table presents a summary of the data quality objectives for the site. The column entitled "Conceptual Site Model" contains a list of the potential receptors. However, the table fails to include the current and future youthful visitor that has been identified in the text as a receptor at the site. The table should be amended to include these receptors.**

Response: Table 3-1 shall be revised.

Stump Dump (Parcel 82)

Comment 1: **Figure 3-1. The figure presents the human health conceptual site model developed for the site. The future groundskeeper receptor appears on the figure twice. The figure should be corrected.**

Response: Figure 3-1 will be revised.

Comment 2: **Figure 4-1. At least two surface soil samples should be collected within the parcel boundaries to derive the exposure point concentration that will be used in the ecological risk screening.**

Response: The Stump Dump has been capped. Surface soil samples would only consist of sampling cap material.

Old Incinerator Building 5710 (Parcel 125)

Comment 1: **The two soil borings may not provide sufficient spatial coverage to determine whether ash was buried onsite. Additional borings for lithologic characterization with minimal sampling should be considered.**

Response: Disagree. The site is extremely small. The purpose of the SI is to determine the absence or presence of contaminants. Two samples are more than sufficient to meet that goal.

Former Choccolocco Corridor Smoke Area (Parcel 107)

No comments were generated during the review of this attachment.

Former Smoke Area South Slope of Morgan Mountain (Parcel 159)

No comments were generated during the review of this attachment.

PACKAGE VI

RANGE 24A, FOG OIL DRUM STORAGE, PARCEL 88(7)
RANGE 24A, MULTI-PURPOSE RANGE, PARCEL 108(7)/82Q-X
FORMER SMOKE AREA BVZ, PARCEL 124(7)
FORMER SMOKE AREA S, PARCEL 106(7)
FORMER SMOKE AREA R, PARCEL 105(7)
STUMP DUMP, PARCEL 82(7)
OLD INCINERATOR BUILDING 5710, PARCEL 125(7)
FORMER CHOCCOLOCCO CORRIDOR SMOKE AREA, PARCEL 107(7)
FORMER SMOKE AREA, SOUTH SLOPE OF MORGAN MOUNTAIN, PARCEL 159(7)
RESPONSE TO COMMENTS
BY ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Reference *Comments by Christopher L. Johnson, August 17, 1998*

Range 24A Fog Oil Drum Storage Area (Parcels 88)

General Comments

No comments were generated.

Specific Comments

Comment 1: **Page 4-3, Section 4.3.3.2, Line 29. Change "will be not" to "will not be."**

Response: Agree. The text will be revised

Comment 2: **Page 4-7, Section 4.8, Line 24. Reword this sentence. The term "open fenced area" is confusing.**

Response: Agree. The sentence will be change to "The IDW will be staged in the fenced area around Buildings 335 and 336 while awaiting final disposal."

Range 24A Multi-Purpose Range (Parcel 108)

General Comments

Comment 1: **The current and former ranges and their associated activities should be clearly documented in this work plan. More effort should be involved in locating potential sources resulting from past and present training activities. Areas of potential concern include, but are not limited to, field flame expedient training areas, demolition training areas, small arms impact areas, mortar/grenade impact areas. The current work plan does not provide any indication of how these areas**

will be identified and/or delineated. Please revise the plan to include how these areas will be identified and sampled.

Response: Agree. The Archives Search Report, June 1998, will be reviewed along with available aerial photographs to determine current and former ranges and training areas. Text and figures will be revised accordingly.

Comment 2: **Historical and current explosives training has been documented for Parcel 108 (Archives Search Report, June 1998). Therefore, EPA Method 8330 should be included in the analytical suite for this parcel. Please revise all text and tables accordingly.**

Response: Agree. Analysis for Method 8330 will be included for a sample media.

Specific Comments

Comment 1: **Page 2-2, Section 2.0, Line 12. The analytical data is not in Appendix A.**

Response: Appendix A was inadvertently left out of the draft SFSP. It will be included in the final SPSP.

Comment 2: **Page 2-3, Section 2.0, Line 4. The analytical data is not in Appendix A.**

Response: Appendix A was inadvertently left out of the draft SFSP. It will be included in the final SPSP.

Comment 3: **Page 4-8, Section 4.7, Line 35. Reword this sentence. The term "open fenced area" is confusing.**

Response: Agree. The sentence will be change to "The IDW will be staged in the fenced area around Buildings 335 and 336 while awaiting final disposal."

Smoke Area BVZ (Parcel 124)

General Comments

Comment 1: **According to Plate 10 of the Draft Archives Search Report, dated June 1998, Parcel 124 resides within a former small arms range, an explosive ordnance impact area, and an artillery impact area. The Army contractor should review the Draft Archives Search Report in order to verify if our findings our correct. If so, the site-specific work plans for this parcel may require revisions.**

Response: Agree.

Specific Comments

No comments were generated for this parcel.

Smoke Area S (Parcel 106)

General Comments

Comment 1: **According to Plate 10 of the Draft Archives Search Report, dated June 1998, Parcel 106 resides within a possible artillery impact area. The Army contractor should review the Draft Archives Search Report in order to verify if our findings our correct. If so, the site-specific work plans for this parcel may require revisions.**

Response: Agree.

Specific Comments

No comments were generated for this parcel.

Smoke Area R (Parcel 105)

General Comments

Comment 1: **According to Plate 10 of the Draft Archives Search Report, dated June 1998, Parcel 105 resides within a possible artillery impact area. The Army contractor should review the Draft Archives Search Report in order to verify if our findings our correct. If so, the site-specific work plans for this parcel may require revisions.**

Response: Agree.

Comment 2: **The sample size proposed for this parcel is insufficient. One surface soil and one subsurface soil does not provide adequate information to support a risk based decision. The Department recommends three surface soil and three subsurface soil samples for Parcel 105.**

Response: One additional surface soil and one additional subsurface soil will be proposed.

Specific Comments

No comments were generated for this parcel.

Stump Dump (Parcel 82)

General Comments

Comment 1: **According to Plate 10 of the Draft Archives Search Report, dated June 1998, Parcel 82 resides within an artillery impact area. The Army contractor should review the Draft Archives Search Report in order to verify if our findings our correct. If so, the site-specific work plans for this parcel may require revisions.**

Response: Agree.

Comment 2: **Why is there no geophysical survey work being conducted at this parcel?**

Response: Typically, our approach to fill areas is to use geophysical surveys to define the boundaries. The boundaries of the Stump Dump are known, therefore, a geophysical survey is not proposed.

Comment 3: **All proposed surface and subsurface soil samples are in the same location as the proposed monitoring well locations. What do you intend to find in the soil if your outside the boundary of the disposal areas? What will this soil data be used for? Again, the goal is to locate and sample potential sources of contamination, preferable the "worst offender" areas. If we sample outside the boundaries of the "stump dump" then what have we accomplished?**

Response: The Stump Dump is capped. Generally we do not drill through caps or covers to prevent damaging the integrity of the cover or cap. Two surface water/sediment samples and one depositional soil sample are proposed to be collected from inside the boundaries of the parcel. The data will be used to determine if contaminants are present in soils outside of the parcel boundaries.

Specific Comments

No comments were generated for this parcel.

Old Incinerator Building 5710 (Parcel 125)

General Comments

No comments were generated.

Specific Comments

Comment 1: **Fig. 4-1. Please explain why the parcel boundary does not encompass the foundations and proposed sampling locations.**

Response: The figure will be revised to show the foundations and sample locations inside the parcel boundaries.

Former Smoke Area Choccolocco (Parcel 107)

No comments were generated for this parcel.

Former Smoke Area South Slope Morgan Mountain (Parcel 159)

No comments were generated for this parcel.

PACKAGE VI

RANGE 24A, FOG OIL DRUM STORAGE, PARCEL 88(7)
RANGE 24A, MULTI-PURPOSE RANGE, PARCEL 108(7)/82Q-X
FORMER SMOKE AREA BVZ, PARCEL 124(7)
FORMER SMOKE AREA S, PARCEL 106(7)
FORMER SMOKE AREA R, PARCEL 105(7)
STUMP DUMP, PARCEL 82(7)
OLD INCINERATOR BUILDING 5710, PARCEL 125(7)
FORMER CHOCCOLOCCO CORRIDOR SMOKE AREA, PARCEL 107(7)
FORMER SMOKE AREA, SOUTH SLOPE OF MORGAN MOUNTAIN, PARCEL 159(7)
RESPONSE TO COMMENTS
BY U.S ARMY CORPS OF ENGINEERS

General Comments

Comment 1: **Please note the global comments that were made for Package 1 that also apply to this package.**

Response: The Global Comments will be incorporated into the final documents.

Comment 2: **Cover. Choccolocco is misspelled on the outside and inside cover.**

Response: The spelling will be corrected.

Range 24A, Fog Oil Drum Storage, Parcel 88(6)

Comment 1: **Page 3-2, Section 3.3, Line 34-35. What is meant by the statement that the site is not deemed safe for public use until remediation has been completed? Is this speaking of the UXO contamination, or contamination resulting from fog oil storage? Currently, it is not known if any remediation will be required.**

Response: This refers to the potential for the site to contain unexploded ordnance (UXO) as discussed in Section 1.2 of the SFSP. In the Fort McClellan (FTMC), 1997, *Fort McClellan Comprehensive Reuse Plan*, prepared under contract to the Calhoun County Commission, November, it states that the reuse for this parcel is expected to be part of the Remediation Reserve. Also it states that these parcels comprise 2709 acres and contain a large and undefined quantity of UXO. Each of these parcels, has accommodated firing ranges and until remediation has been completed, can not be deemed safe for public access.

Comment 2: **Table 4-4. The total number of samples for Quanterra should be 67 rather than 73. The 6 QA samples will not be analyzed by Quanterra.**

Response: Table 4-4 has the correct totals for samples to be analyzed by Quanterra as 73 for the for the total analyzed by Quanterra. For example, there are 5 water field samples for TCL VOCs + 1 FD + 1 Pair MS/MSD (2 samples) + 2 trip blank samples + 1 equipment rinse sample = 11 samples. The 1 FD sample will be analyzed by the USACE QA laboratory and is not part of the total for Quanterra. The total of 73 is the correct total of analyses that Quanterra will receive for this site.

Comment 3: **Page 4-7, Section 4.8, Line 24. Suggest deleting "... in the open fenced area...".**

Response: Agree. The sentence will be change to "The IDW will be staged in the fenced area around Buildings 335 and 336 while awaiting final disposal."

Comment 4: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree. The correct reference for the SOW is January 1998. The text will be revised.

Range 24A, Multi-Purpose Range, Parcel 108(7)/82Q-X

Comment 1: **Page 1-2, Line 6. Should "wooded tables" be "wooden tables"?**

Response: Agree. "wooded" will be changed to "wooden."

Comment 2: **Figure 1-2 and 4-1. It would be helpful to include the locations of Parcels 112Q and 213Q on this figure also. If it can be determined where the firing points and impact areas for these ranges were located, sample locations may need to be adjusted to obtain proper coverage.**

Response: Agree. Parcels 112Q and 213Q will be located on the figures and samples located will be reviewed for any adjustments.

Comment 3: **Page 2-2, Line 12. There is nothing in Appendix A.**

Response: Appendix A was inadvertently left out of the draft SFSP. It will be included in the final SPSP.

Comment 4: **Table 4-4. The total number of samples for Quanterra should be 335 rather than 351.**

Response: 351 is the correct total number of samples. The MS/MSD counts as two samples.

Comment 5: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree. The correct reference for the SOW is January 1998. The text will be revised.

Comment 6: **Appendix A. The analytical data is missing.**

Response: Appendix A was inadvertently left out of the draft SFSP. It will be included in the final SPSP.

Smoke Area BVZ, Parcel 124(7)

Comment 1: **Table 4-4. The total number of samples for Quanterra should be 49 rather than 55.**

Response: Disagree. The MS/MSD counts as two samples.

Comment 2: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Smoke Area S, Parcel 106(6)

Comment 1: **Table 4-4. The total number of samples for Quanterra should be 67 rather than 73.**

Response: Disagree. The MS/MSD counts as two samples.

Comment 2: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Smoke Area R, Parcel 105(6)

Comment 1: **Page 4-1, Section 4.2. One surface soil and one subsurface soil sample may not be adequate for the site.**

Response: One additional surface soil sample and one additional subsurface soil sample will be added to the scope of work.

Comment 2: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Stump Dump, Parcel 82(7)

Comment 1: **Page 4-1, Section 4.2.1.1. Since the stump dump was capped and vegetated, would it be possible to reduce the number of surface soil samples?**

Response: IT recommends that the number of surface soils remain the same.

Comment 2: **Figure 4-1. It may be possible to reduce the number of monitoring wells at the site by determining the groundwater flow direction prior to installing all 8 wells.**

Response: There is also a potential for radial flow emanating from this site. It would probably be prudent to keep the 12 wells to assist with accurately defining groundwater flow direction.

Comment 3: **Table 4-4. The total number of samples for Quanterra should be 347 rather than 375.**

Response: Disagree. The MS/MSD counts as two analyses.

Comment 4: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Old Incinerator Building 5710, Parcel 125(7)

Comment 1: **Figure 1-2. Why is the building foundation shown outside the parcel boundary?**

Response: Figure 1-2 will be revised to show the building foundation inside the parcel boundary.

Comment 2: **Table 4-4. The total number of samples for Quanterra should be 121 rather than 137.**

Response: Disagree. The MS/MSD counts as two analyses.

Comment 3: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Former Choccolocco Corridor Smoke Area, Parcel 107(7)

Comment 1: **Table 4-4. The total number of samples for Quanterra should be 61 rather than 67.**

Response: Disagree. The MS/MSD counts as two analyses..

Comment 2: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.

Former Smoke Area South Slope of Morgan Mountain, Parcel 159(7)

Comment 1: **Table 4-3. The total number of samples for Quanterra should be 53 rather than 58.**

Response: Disagree. The MS/MSD counts as two analyses.

Comment 2: **Section 6.0. The wrong scope of work is referenced.**

Response: Agree.